

REMARKS

Applicants respectfully request that the above application be reconsidered, as amended. Claims 1-25 are currently pending.

Paragraph [0032] at pages 11-12 of the specification has been amended to provide the serial number and filing date of a co-pending application referenced therein.

A typographical error in Claim 14 has also been corrected.

A. Response to Rejection of Claims 1-25 under 35 USC 112, Second Paragraph

At page 2 of the Office Action, the Examiner has rejected Claims 1-25 under 35 USC 112, second paragraph, as being indefinite, with specific reference to Claims 1, 9 and 23.

Regarding Claims 1, 9 and 23, the Office Action alleges that the first metal oxide of the stabilizer component cannot have a concentration of 49 mole % because a second metal oxide is required. However, what is alleged in the Office Action misconstrues Claims 1, 9 and 23 as to how much of the second metal oxide can be present in the composition/thermal barrier coating. What these Claims say is that the second metal oxide is present in an amount of about 4 mole % or less in the composition/thermal barrier coating, *i.e.*, the maximum amount of the second metal oxide that can be present in the composition/thermal barrier coating. In other words, the second metal oxide is an optional component, and need not be present in the composition/thermal barrier coating, as is clearly taught in the above application. See paragraph [0020] at page 6 of the above application.

In summary, Claims 1-25 comply with the requirements of 35 USC 112, second paragraph.

B. Response to Rejections of Claims 1-2, 5-13 and 15-25 under 35 USC 102(a) as Anticipated by, or Alternatively under 35 USC 103(a) as Unpatentable over Bruce

At pages 2-3 of the Office Action, the Examiner has rejected Claims 1-2 and 4-25 under 35 USC 102(a) as anticipated by U.S. Patent Application 2003/0224200 (Bruce). Alternatively, at pages 3-4 of the Office Action, the Examiner has rejected Claims 1-2 and 4-25 under 35 USC 103(a) as unpatentable over Bruce.

Applicants are somewhat confused because: (1) the Office Action Summary says that Claims 3-4 and 14-15 are objected to; and (2) page 4 of the Office Action says that Claims 3-4 and 14-15 would be allowable if rewritten in independent form. Accordingly, Applicants have assumed that the Examiner intended to actually reject only Claims 1-2, 5-13 and 16-25 as anticipated by, or alternatively as obvious over, Bruce.

These rejections under 35 USC 102(b)/103 USC 103(b) based on the Bruce reference are respectfully traversed with respect to Claims 1-2, 5-13 and 16-25 as currently presented. The composition, article and method defined by these Claims are distinguishable, as well as unobvious, over Bruce for at least one reason, namely the particular crystalline phase that the zirconia/thermal barrier coating is stabilized in or is capable of being stabilized in by the stabilizer component. Regarding Claims 1-2 and 5-8 (composition), independent Claim 1 defines the composition as being capable of providing a thermal barrier coating wherein the zirconia is stabilized in the cubic crystalline phase. Regarding Claims 9-13 and 16-22 (article), independent Claim 9 defines the thermal barrier coating as being stabilized in the cubic crystalline phase. Regarding Claims 23-25 (method), independent Claim 23 defines the method as forming a thermal barrier coating such that the zirconia is stabilized in the cubic crystalline phase.

As acknowledged by Bruce, zirconia can be stabilized in at least three different crystalline phases: (a) tetragonal; (b) monoclinic; and (c) cubic. See paragraph [0006] of Bruce. However, Bruce never says what crystalline phase its coating material comprising zirconia is partially stabilized in by yttria. Indeed, and unlike the composition, article and method of Claims 1-2, 5-13 and 16-25, Bruce does not use lanthana and/or neodymia to stabilize the zirconia in any particular crystalline phase, and especially does not teach and/or suggest using lanthana or neodymia to stabilize zirconia in the cubic crystalline phase.

For at least the foregoing reasons, Claims 1-2 and 5-13 and 16-25 are novel and unobvious over Bruce.

C. Response to Objection of Claims 3-4 and 14-15

At page 4 of the Office Action, the Examiner has objected to Claims 3-4 and 14-15 as being dependent upon a rejected base claim, but say these Claims would be allowable if rewritten in independent form to include all limitations of the base claim and any intervening claim.

This objection is respectfully traversed with respect to Claims 3-4 and 14-15 as currently presented and/or amended. Applicants agree that Claims 3 and 14-15 are further distinguishable over Bruce by the further addition of hafnia as the third metal oxide. (Claim 4 defines the zirconia-containing ceramic composition as comprising tantala but not necessarily hafnia.) However, Claims 3-4 and 14-15 also ultimately depend from, respectively, independent Claims 1 and 9. For reasons previously given, Claims 1 and 9 are novel and unobvious over the art relied on in this Office Action. Accordingly, Claims 3-4 and 14-15 ultimately depend from an allowable base claim, and therefore do not need to be rewritten in independent form.

D. Conclusion

In conclusion, Claims 1-25, as amended, comply with the requirements of 35 USC 112, second paragraph. Claims 1-25, as amended, are also novel and unobvious over the prior art relied in the Office Action. Accordingly, Applicants respectfully request that Claims 1-25, as amended, be allowed to issue in the above application.

Respectfully submitted,

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